



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/546,184	04/10/2000	Yashiko Wakabayashi	017446/0301	3000
22428	7590	04/22/2004	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			CHANG, EDITH M	
			ART UNIT	PAPER NUMBER
			2634	10
DATE MAILED: 04/22/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/546,184

Applicant(s)

WAKABAYASHI, YASHIKO

Examiner

Edith M Chang

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 and 11 is/are allowed.
- 6) ☐ Claim(s) 1,2,5-9 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 3 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see pages 1-4, filed January 30 2004, with respect to the rejection(s) of claim(s) 1, 6, 8, and 9 have been fully considered and are persuasive. A new ground(s) of rejection is made as follow.

### ***Claim Objections***

2. Claim objected to because of the following informalities:

Claim 3, line 4 and line 7, the term "detection signal" is suggested changing to "carrier sense signal" as the antecedence of the "carrier sense signals" in line 17 and line 20.

Claim 7, line 1, "An equalizing method A circuit according to" is suggested changing to "An equalizing method according to".

Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2 & 6-7 are rejected under 35 U.S. C. 103(a) as being unpatentable over Kobayashi et al. (US 6229950 B1) in view of Kusumi et al. (US 6252630 B1).

Regarding **claims 1 & 6**, Kobayashi et al. discloses an equalizer circuit and it method, the circuit comprising: first and second equalizing means (7 & 8 FIG.7) for equalizing the reception signal; control means (6 & 17-18 FIG.7) for alternately enabling the first and second equalizing means every frame reception (column 4 lines 14-20, wherein alternately enabling for every track/frame); switching means (9 FIG.7) for alternately switching between outputs from the first and second equalizing means every frame reception and outputting the selected output as demodulation data; and a memory (5 FIG.7, having the memory for the reception signals for equalizing; 16 FIG.7, having the memory for the reception signals for CPU 17) storing the reception signals, however Kobayashi et al. does not explicitly specify a means for sensing the start of a reception signal on the basis of a signal representing a reception level of the reception signal. Kusumi et al. teaches the carrier sensing means for sensing the reception signal on the reception level (2 FIG.1, column 1 lines 41-45, column 4 lines 25-27, wherein the VRT receives the wireless signal which is detected/sensed on the reception level), as Kusumi et al.'s method for obtaining video signals by receiving satellite waves to the VTR, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the Kobayashi et al.'s VRT receiving the wireless signal taught by Kusumi et al. to offer the ability to provide the video program in the satellite communication environment (column 1 lines 13-18, column 2 lines 5-12).

Regarding **claims 2 & 7**, Kobayashi et al. discloses the control means (6 & 17-18 FIG.7) alternately outputs first and second sense signals to the first and second equalizing means (column 4 lines 14-20, wherein alternately enabling for every track/frame) from a time when the detection signal is output from the carrier sensing means to a time when equalizing processing is

Art Unit: 2634

complete in the first and second equalizing means (FIG.17, FIG.19, column 9 lines 4-15) as indicated in the modified apparatus of claims 1 and 6 rejection, and the first and second equalizing means equalize the reception signal in response to first and second sense signals from the control means (FIG.7).

5. Claims 5 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 6229950 B1) in view of Kusumi et al. (US 6252630 B1) as applied to claim 2 and claim 6 above, and further in view of Fudawa et al. (US 5710792).

Regarding **claims 5 & 12**, further Fudawa et al. teaches the adaptive equalizer and its methods. It comprises equalizer (10 FIG.4) for setting tap coefficients (19 FIG.4) and memories for storing preamble signals (11 FIG.4), detecting frequency offset values (23 FIG.4, Abstract), estimate transmission line characteristics (18 FIG.4, Abstract), and set the tap coefficients (19 FIG.4) at the start of reception of the reception signal (FIG.2). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the Fudawa et al.'s teaching in Kobayashi et al.'s equalizer to suppress transmission distortion (column 1 lines 5-7, '792). The combination/modification improves the equalizer performance and function to suppress transmission distortion by Fudawa et al.'s teaching.

6. Claims 8 & 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 6229950 B1) in view of Kusumi et al. (US 6252630 B1) and Kaku et al. (US 6002724).

Regarding **claim 8**, the modified Kobayashi et al.'s apparatus with Kusumi et al.' teaching has all subject matter claimed (refer to the rejection of claim 1), except explicitly specify supplying a clock signal. However Kaku teaches supplying a system clock signal to the equalizer units in accordance with the carrier sense signal (17, 15 Fig.4). As the Kobayashi et al.'s apparatus receiving wireless video signals, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the clock/gate taught by Kaku et al. implemented in Kobayashi et al.'s apparatus to alternately supplying a system clock signal to the first and second equalizer units in response to the carrier sense signals (column 3 lines 55-60).

Regarding **claim 9**, the modified receiver of claim 8 has all subject matter the claim 9 cited. As the first and second equalizing units alternately output first and second demodulation data used during equalizing processing in response to first and second demodulation data gate signal, wherein the clock supply control signal control (15 Fig. 4) in response to the carrier sense signal as the gate signal to control the demodulation data processing in the first and second equalizers.

7. Claims 13 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 6229950 B1) in view of Kusumi et al. (US 6252630 B1) and Kaku et al. (US 6002724) as applied to claim 8 above, and further in view of Fudawa et al. (US 5710792).

Regarding **claims 13 & 14**, further Fudawa et al. teaches the adaptive equalizer and its methods. It comprises equalizer (10 FIG.4) for setting tap coefficients (19 FIG.4) and memories for storing preamble signals (11 FIG.4), detecting frequency offset values (23 FIG.4, Abstract), estimate transmission line characteristics (18 FIG.4, Abstract), and set the tap coefficients (19

FIG.4) at the start of reception of the reception signal (FIG.2). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the Fudawa et al.'s teaching in Kobayashi et al.'s equalizer to suppress transmission distortion (column 1 lines 5-7, '792).

*Allowable Subject Matter*

8. Claims 4 & 11 are allowed.
9. Claim 3 is objected to informality, but would be allowable if rewritten to overcome the objections.
10. Claim 10 is objected as being dependent upon objected base claim, but would be allowable if the objected base claims overcome the objections.

*Conclusion*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Chang whose telephone number is 703-305-3416. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2634

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang  
April 15, 2004

  
**CHIEH M. FAN**  
**PRIMARY EXAMINER**